

ABSTRACT

An integrated electrode capable of immobilizing an isolated cell and/or a cultured cell on the electrode without giving any damage to its cell membrane, and capable of detecting an electrophysiological activity of the immobilized cell with sufficient sensitivity is provided. An integrated electrode having a substrate equipped with at least one electric conductor, and a wiring part which leads an electrical signal out from the aforementioned electric conductor, in which the integrated electrode can detect an electrical signal resulting from an electrophysiological change of a cell immobilized on the surface of the aforementioned electric conductor, and at least a part of the surface of the aforementioned electric conductor is coated with a dielectric material, with the aforementioned dielectric material being a positively charged polymer material, and the aforementioned cell being an isolated cell and/or a cultured cell.